Preface

The literature on the technical and scientific theory of maintenance and other related disciplines (maintenance engineering, statistical dependability, etc.) is substantial and relatively exhaustive today.

Despite the fact that it is quite probably true that technological and scientific progress does not take place through great leaps forward, but through small, continuous steps, which are not made by individual scientists, but by mankind as a whole, we cannot forego reflection on the changes underway in our time, which almost seem to constitute the arrival at the top of a peak, after a journey travelled at increasingly high speed during the twentieth century.

The spread of the personal computer, the Internet and the most disparate range of virtual environments of communication and “socialisation” has been a profound and radical step forward in people’s professional and private lifestyles, which must be taken into account in drawing up the umpteenth publication on a scientific subject.

This is the starting point we want to set out from in writing this volume. The world is not changing; the world has changed, and this has an important influence on the way we study, conduct research, experiment and publish the results of our research.

I have dealt with maintenance for many years, both from the academic point of view of study and research and from the professional and institutional points of view, as Secretary General of the Italian National Committee for Maintenance, with the ambitious objective of facilitating the spread of a culture of maintenance, which is basic to pursuing the objectives of safety, the quality of life, the economic viability of management and development that is compatible with environmental requirements.

From this point of view, maintenance is not only planning, organisation and management of inspections and technical intervention in a more or less efficient manner over a period of time in order to ensure continuity of operation. It is much more. It is a fundamental discipline in dealing with many of the world’s problems. If nothing is created and nothing is destroyed, in fact, it is obvious that everything has to be maintained. So maintenance is also a philosophical concept of life, which
in some ways is more in harmony with Oriental spiritual trends than with prevailingly Western positivist and rationalistic views and the illusion of coming to understand the mystery of life through analysis, instead of through the apparently more primitive symbolic path, which is a synthesis of rationality and imagination.

Maintenance is an indicator of civilisation, respect for our neighbours, ethics and intellectual honesty, even before it is an indicator of material efficiency. In this sense, it entirely adheres to the new technologies of communication that play such an important part in our everyday lives.

As science fiction has long portrayed, in fact, men and things seem to be destined to become the elements of a network of virtual communication, which probably represents our life better than the scientifically theorised and perceived space–time continuum, which is considered a mere instrument or model serving and benefiting man, even today, who is capable of perceiving only 3% of what takes place around him, on the neurological level.

So we shall be dealing in this book with the integration of maintenance in this virtual platform that we call advanced maintenance, even through the presentation of several actual case studies.

Therefore the first question we want to answer is: what is maintenance, and why is it so important? The second question is: what do we mean by advanced maintenance and why does it seem so important to introduce this definition with respect to the definitions that already exist? Finally, the third question is: how can advanced maintenance be operationally implemented?

If we succeed, especially by dealing with actual case studies, in arousing the reader’s curiosity and wonder and provoking thought that places today’s most widespread visions under discussion and even overturns them, and if we succeed in arousing the reader’s interest from the first to the last page, we will be able to say that we are satisfied.
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